# VoIP Ceiling Speaker Operations Guide





Part #010844

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930095K

**PoE VoIP Speaker Operations Guide 930095K**
**Part # 010844**



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# Revision History

| Revision | Date Released | Description of Changes |
|---|---|---|
| E | 11/08/2006 | Adds Section 2.4, "Set up the MGROUPS". |
| F | 1/22/2007 | Adds info about the RTFM Announcement feature in Table 2-6 |
| G | 4/12/2007 | Changes the Authenticate ID and password character limit from 30 to 25 in Table 2-7. |
| H | 6/29/2007 | Adds Figure 2, "Public Address System—Multicast" .<br>Adds more information about MGROUPS in Section 2.4, "Set up the MGROUPS".<br>Adds information about the Outbound Proxy in Table 2-7. |
| I | 10/9/2007 | Adds the following safety information:<br>“Prior to installation, consult local building/electrical code requirements.” |
| J | 5/8/2008 | Updates shipping weight and adds ambient operating temperature information in Section 1.5, "Product Specifications" |
| K | 6/20/2008 | Adds the following note to Appendix A, “Mounting the Speaker”:<br>“For weak ceiling tile, CyberData offers a reinforcing mount (CyberData part number 010991A).” |

# Contents

# 1 Product Overview

The Voice-over-IP (VoIP) Ceiling Speaker uses a single cable to connect to existing LANs to broadcast digital audio over your public address system. The small footprint and low height makes this an ideal speaker to discreetly mount almost anywhere. Prior to installation, do the following:

- Create a plan for the locations of your loudspeaker amplifiers.
- Consult local building and electrical code requirements.

## 1.1 Typical System Installation

Figure 1 illustrates how the VoIP Ceiling Speakers are normally installed as part of a public address system.

**Figure 1. Public Address System**

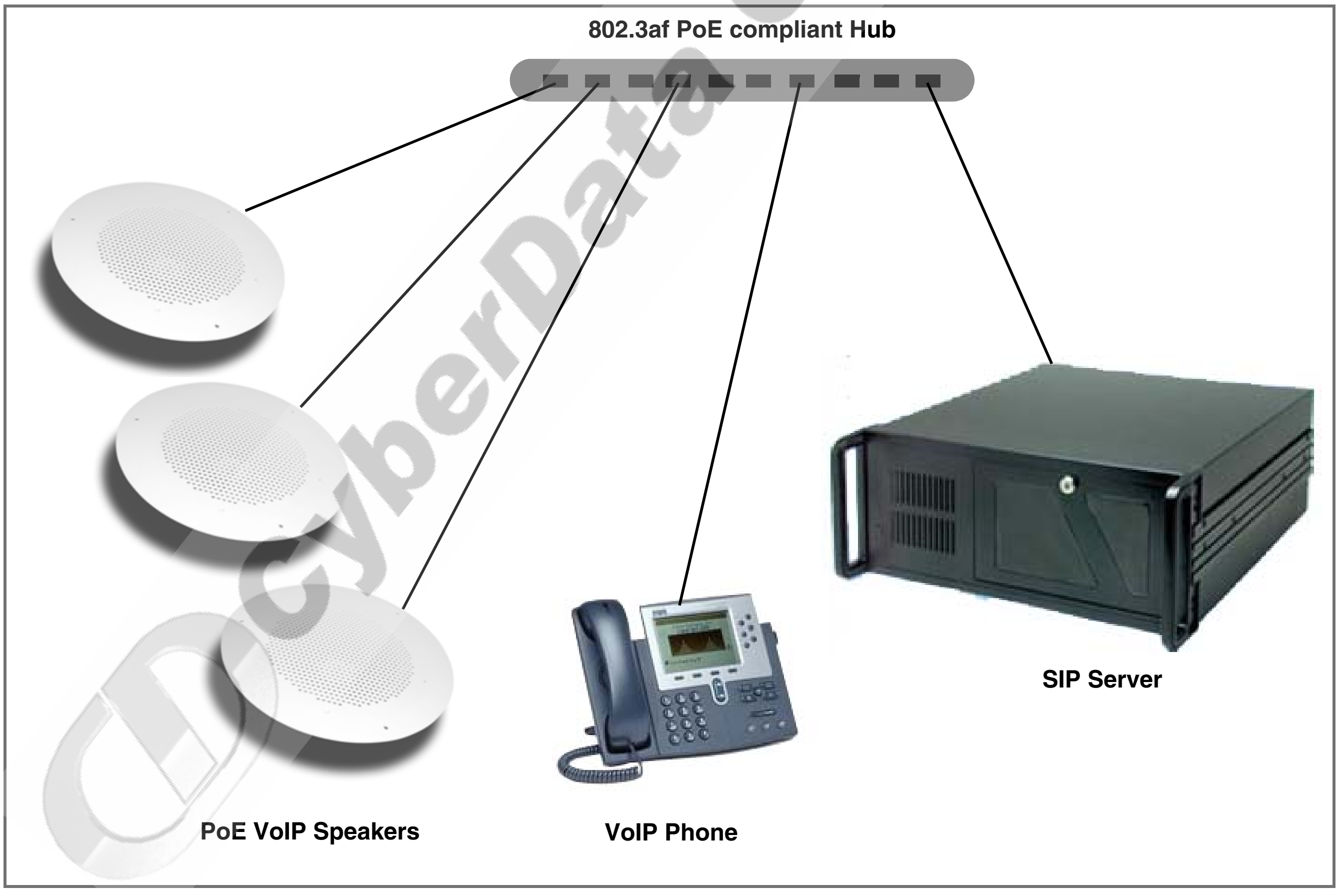
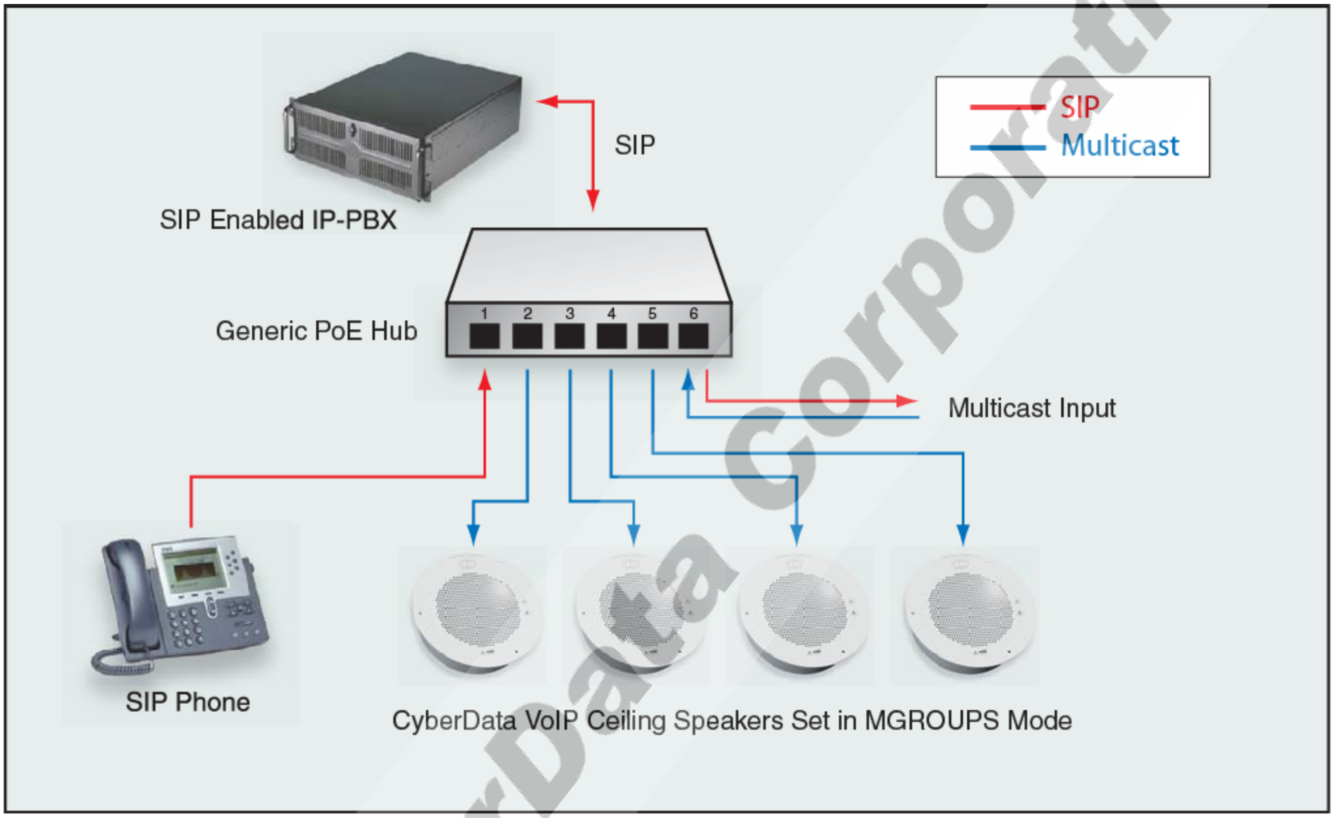


Figure 2 illustrates how the VoIP Ceiling Speakers are can be installed as part of a multicast public address system.

**Figure 2. Public Address System—Multicast**



# 1.2 Product Features




- *SIP compliant*
- *Multicast support*
- *Dual speeds of 10 Mbps and 100 Mbps*
- *802.3af compliant*
- *High efficiency speaker driver*
- *Web-based configuration*
- *External volume control*
- *Small footprint*
- *Web-based firmware upgrades*

# 1.3 Supported Protocols

The IP Speaker supports:

- SIP
- Multicast
- HTTP Web-based configuration

  Provides an intuitive user interface for easy system configuration and verification of speaker operations.
- DHCP Client

  Dynamically assigns IP addresses in addition to the option to use static addressing.
- TFTP Client

  Facilitates Web-based firmware upgrades of the latest speaker capabilities.
- RTP
- RTP/AVP - Audio Video Profile
- Audio Encodings

  PCMU (G.711 mu-law)

  PCMA (G.711 A-law)

  Packet Time 20 ms

# 1.4 Supported SIP Servers

The following link contains information on how to configure the speaker for the supported SIP servers:

http://www.cyberdata.net/support/voip/ceilingspeaker.html

# 1.5 Product Specifications

| Category | Specification |
|---|---|
| Sensitivity | 96dB/1W/1M S.P. Level |
| Output | 8 Watts Peak Power |
| Port Baud Rate | 10/100 Mbps |
| Power Requirement | 802.3af compliant |
| Protocol | SIP |
| Part Number | 010844 |
| Dimensions | 9" x 2.4" |
| Weight | 2.8 lbs./shipping weight of 3.8 lbs. (1.3 kg/shipping weight of 1.7 kg) |
| Ambient Operating Temperature | 32 to 122 degrees F (0 to 50 degrees C) |

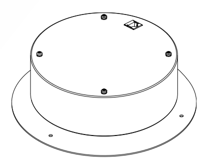
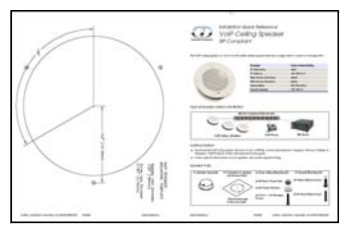
# 2 Installing the VoIP Ceiling Speaker

## 2.1 Parts List

Table 2-1 illustrates the parts for each speaker and includes kits for the drop ceiling and drywall mounting.

**Note** The *Template for Speaker and Screw Holes* is located on the last page of the *Installation Quick Reference Guide* that is included in the packaging with each speaker.

**Table 2-1. Parts List**

| Quantity | Part Name | Illustration |
|---|---|---|
| 1 | Speaker Assembly |  |
| 1 | Installation Quick Reference Guide |  |
| 1 | Speaker Mounting Accessory Kit (Part #070054A) |  |

# 2.2 Speaker Setup

Set up and configure each speaker *before* you mount it.

CyberData delivers each speaker with the following factory default values:

**Table 2-2. Factory Default Settings—Default of SIP**

| Parameter | Factory Default Setting |
|---|---|
| SIP/MGROUPS | SIP |
| IP Addressing | static |
| IP Address | 192.168.3.10 |
| Web Access Username | admin |
| Web Access Password | admin |
| Subnet Mask | 255.255.255.0 |
| Default Gateway | 192.168.3.1 |

## 2.2.1 Connect Power to the Speaker

Figure 2-1 and Figure 2-2 illustrates how to connect the VoIP Ceiling Speaker to a 802.3af compliant ethernet hub (Figure 2-1) or a PoE Injector (Figure 2-2) via a Cat 5 Ethernet Connector.

**Note** If a 802.3af compliant ethernet hub is not available, you will need a PoE Injector, part #010867A (ordered separately). A PoE Injector is a power supply solution for those who have a standard hub.

**Figure 2-1. 802.3af Compliant Ethernet Hub**

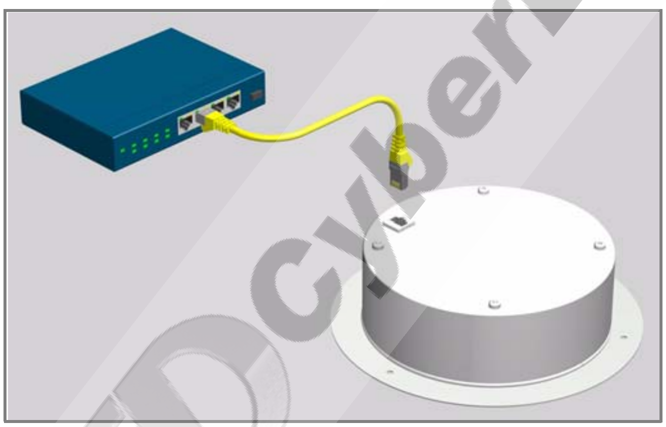
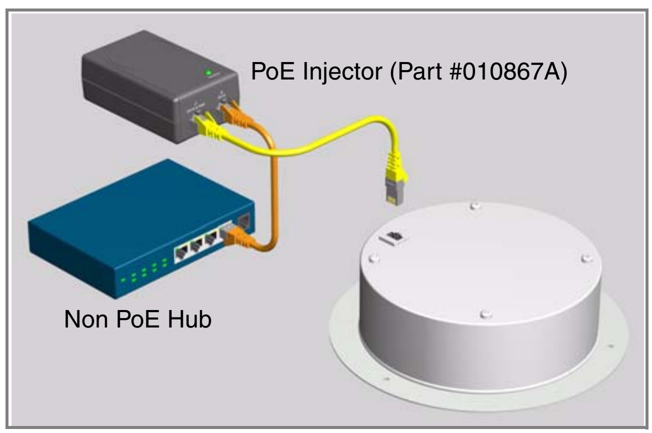


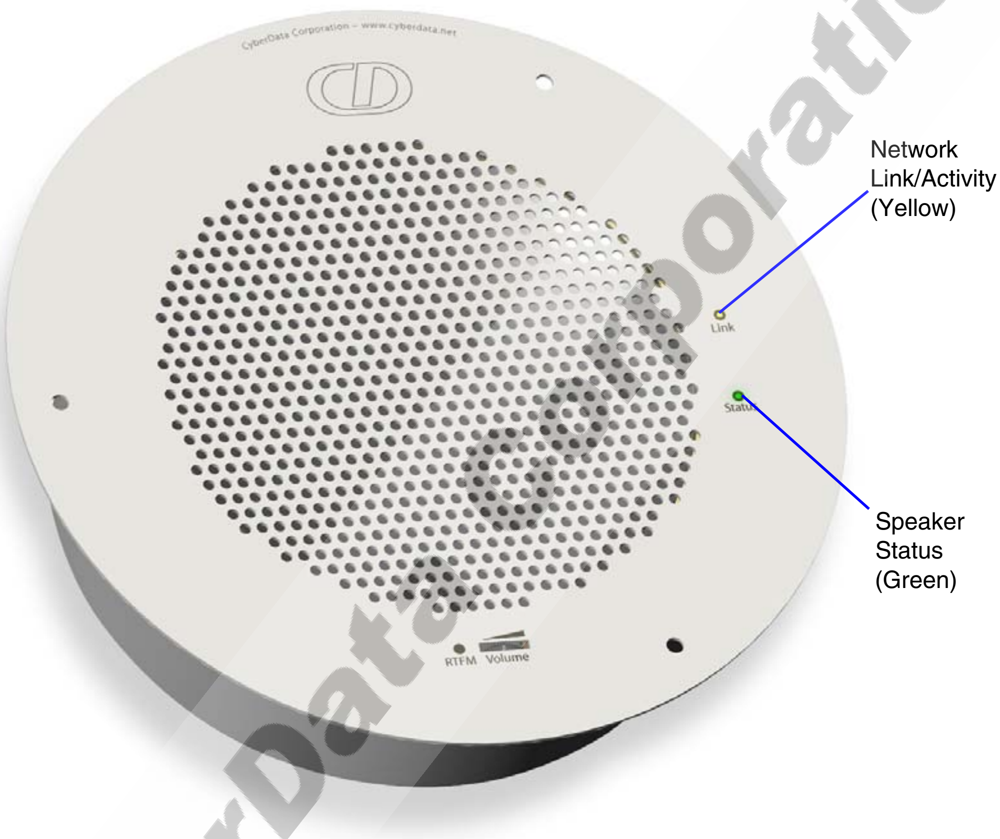
**Figure 2-2. PoE Injector**



## 2.2.2 Confirm that the Speaker is Operational and Linked to the Network

After connecting the speaker to the 802.3af compliant ethernet hub, the LEDs on the speaker face confirm that the speaker is operational and linked to the network.

**Figure 2-3. Status and Activity LEDs**






### 2.2.2.1 Status LED

After supplying power to the speaker:

1. The green **Status** LED illuminates after approximately five seconds to indicate the start of the firmware verification and load process.
2. After approximately 15 seconds, the **Status** LED begins to blink at one second intervals to indicate the start of the firmware boot process.
3. After approximately 35 seconds, the speaker beeps once to indicate that it is operational.
4. The **Status** LED will continue to blink at one second intervals to indicate normal operation.

### 2.2.2.2 Link LED

- The **Link** LED is illuminated when the network link to the speaker is established.
- The **Link** LED blinks to indicate network traffic.

## 2.2.3 Confirm the IP Address, Test the Audio, and Check the Volume

When the speaker is operational and linked to the network, use the Reset Test Function Management **(RTFM)** switch (Figure 2-4) on the speaker face to announce and confirm the speaker's IP Address, test that the audio is working, and check the volume.

**Figure 2-4. RTFM Switch**




To announce a speaker's current IP address:

1. Press and hold the **RTFM** switch until it beeps (after one second).
2. Release the switch to hear the IP address announcement, and check the speaker volume.

**Note** The speaker will announce it's default IP address (192.168.3.10).

**CAUTION** Pressing and holding the RTFM switch for longer than 20 seconds will restore the speaker to the factory default settings. See Section 2.6, "Restore the Factory Default Settings".

## 2.2.4 Adjust the Volume

To adjust the speaker volume, turn the **Volume** dial (Figure 2-5) on the speaker face.

**Figure 2-5. Volume Control**






# 2.3 Configure the Speaker Parameters

To configure the speaker online, use a standard web browser.

Configure each speaker and verify its operation *before* you mount it. When you are ready to mount a speaker, refer to Chapter A, “Mounting the Speaker” for instructions.

All speakers are initially configured with the following default IP settings:

When configuring more than one speaker, attach the speakers to the network and configure one at a time to avoid IP address conflicts.

**Table 2-3. Factory Default Settings**

| Parameter | Factory Default Setting |
|---|---|
| SIP/MGROUPS | SIP |
| IP Addressing | static |
| IP Address | 192.168.3.10 |

**Table 2-3. Factory Default Settings**

| Parameter | Factory Default Setting |
|---|---|
| Web Access Username | admin |
| Web Access Password | admin |
| Subnet Mask | 255.255.255.0 |
| Default Gateway | 192.168.3.1 |

## 2.3.1 Log in to the Configuration Home Page

1. Open your browser to the speaker IP address.

   For the initial configuration of the speaker, open your browser to the default IP address:

   http://192.168.3.10

**Note** Make sure that the PC is on the same IP network as the speaker.

2. When prompted, use the following default **Web Access Username** and **Web Access Password** to access the **Home Page** (Figure 2-6):

   Web Access Username: **admin**

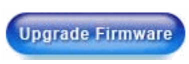
   Web Access Password: **admin**

**Figure 2-6. Home Page**



3. On the **Home Page**, review the setup details and navigation buttons described in Table 2-4.

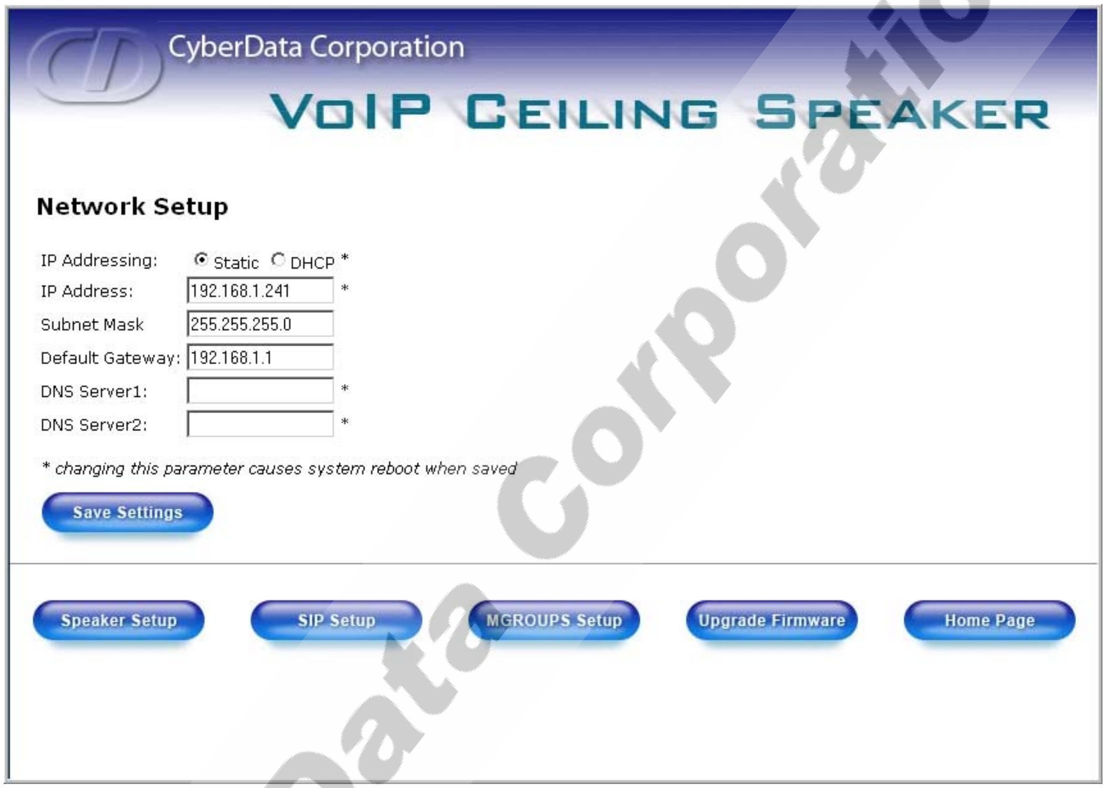
**Table 2-4. Home Page Overview**

| Web Page Item | Description |
|---|---|
| Device Name | Shows the device name. |
| Running | Shows the current speaker function. |
| Serial # | Device serial number. |
| Ethernet Address | Device ethernet address. |
| IP Addressing | Shows the current IP addressing setting (**DHCP** or **static**). |
| IP Address | Shows the current IP address. |
| Subnet Mask | Shows the current subnet mask address. |
| Default Gateway | Shows the current default gateway address. |
|   | Link to the **Speaker Setup** web page. |
|   | Link to the **Network Setup** web page. |
|   | Link to the **SIP Setup** web page. |
|   | Link to the **MGROUPS Setup** page. |
|   | Link to the **Upgrade Firmware** web page. |

## 2.3.2 Configure the Network Parameters

1. Click the **Network Setup** button to open the **Network Setup** page (Figure 2-7).

**Figure 2-7. Network Setup Page**




2. On the **Network Setup** page, enter values for the parameters indicated in Table 2-5.

**Table 2-5. Network Setup Parameters**

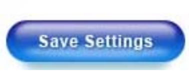
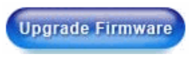
| Web Page Item | Description |
|---|---|
| IP Addressing* | Select either **DHCP IP Addressing** or **Static IP Addressing** by marking the appropriate radio button. If you select **Static**, configure the remaining parameters indicated in Table 2-5. If you select **DHCP**, go to Step 3. |
| IP Address* | Enter the Static IP address. |
| Subnet Mask | Enter the Subnet Mask address. |
| Default Gateway | Enter the Default Gateway address. |
| DNS Server 1* | Enter the DNS Server 1 address. |
| DNS Server 2* | Enter the DNS Server 2 address. |
|   | Click this button to save your configuration settings. Changing a parameter that has an asterisk next to it will cause a system reboot when saved. |

**Table 2-5. Network Setup Parameters**

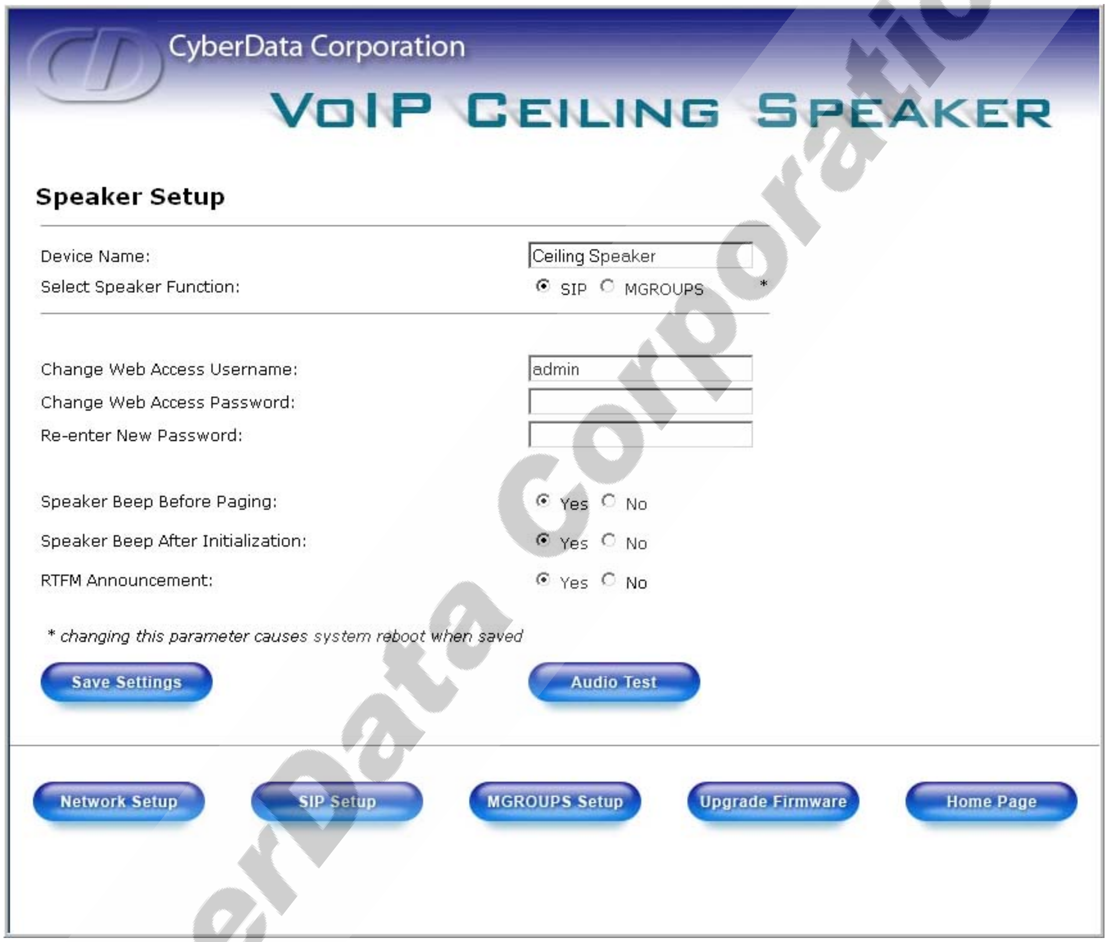
| Web Page Item | Description |
|---|---|
|   | Link to the **Speaker Setup** page. |
|   | Link to the **SIP Setup** page. |
|   | Link to the **MGROUPS Setup** page. |
|   | Link to the **Upgrade Firmware** page. |
|   | Link to the **Home** page. |

3. After changing the parameters, click **Save Settings**. This updates the changed parameters and reboots the speaker if appropriate.
4. Connect the speaker to the target network.
5. From a system on the same network as the speaker, open a browser with the new IP address of the speaker.

## 2.3.3 Set up the Speaker

1. Click the **Speaker Setup** button to open the **Speaker Setup** page. See Figure 2-8.

**Figure 2-8. Speaker Setup**




2. On the **Speaker Setup** page, enter values for the parameters indicated in Table 2-6.

**Table 2-6. Speaker Setup Parameters**

| Web Page Item | Description |
|---|---|
| Device Name | Enter a descriptive name for this device (if desired). |
| Select Speaker Function | Select SIP or MGROUPS. |
| Change Web Access Username | Use this field to change the Web Access Username |
| Change Web Access Password | Use this field to change the Web Access Password |
| Re-enter New Password | Use this field to re-enter a new password |
| Speaker Tone Before Paging | Enable/Disable the speaker tone (beep) before each page. |
| Speaker Tone After Initialization | Enable/Disable the speaker tone (beep) after the system startup. |

**Table 2-6. Speaker Setup Parameters**

| Web Page Item | Description |
|---|---|
| RTFM Announcement[a] | Enable/Disable the speaker tone (beep) and audio associated with the RTFM switch. |
| Save Settings | Click on this button to save your configuration settings. |
| Audio Test | Click on this button to do an audio test. Generates a voice message for testing the speaker audio quality and volume. |
| Network Setup | Link to the **Network Setup** page. |
| SIP Setup | Link to the **SIP Setup** page. |
| MGROUPS Setup | Link to the **MGROUPS Setup** page. |
| Upgrade Firmware | Link to the **Upgrade Firmware** page. |
| Home Page | Link to the **Home** page. |

a.If you select **No** for **RTFM Announcement**, you will not hear a beep or associated RTFM audio. However, the return to default settings function remains active. If you wish to return to default settings, hold the RTFM button at least 20 seconds, then release the button.

3. After changing the parameters, click **Save Settings**.

## 2.3.4 Configure the SIP Parameters

1. Click **SIP Setup** to open the **SIP Setup** page (Figure 2-9).

**Note** For specific server configurations, go to the following URL:
http://www.cyberdata.net/support/voip/ceilingspeaker.html

**Note** If the speaker is set up for MGROUPS, the SIP settings will be grayed out.

**Figure 2-9. SIP Setup Page**



2. On the **SIP Setup** page, enter values for the parameters indicated in Table 2-7.

**Table 2-7. SIP Setup Parameters**

| Web Page Item | Description |
|---|---|
| SIP Server* | Enter the SIP server represented as either a numeric IP address in dotted decimal notation or the fully qualified host name (FQHN) up to 64 characters. |
| Outbound Proxy | Enter the Outbound Proxy as either a numeric IP address in dotted decimal notation or the fully qualified host name (FQHN) up to 64 characters. |
| Remote SIP Port* | Enter the **Remote SIP Port** number (default 5060). |
| Local SIP Port* | Enter the **Local SIP Port** number (default 5060). |
| SIP User ID* | Enter the **SIP User ID** (up to 25 alphanumeric characters). |
| Authenticate ID* | Enter the **Authenticate ID** (up to 25 alphanumeric characters). |
| Authenticate Password* | Enter the **Authenticate Password** (up to 25 alphanumeric characters). |
| SIP Registration* | Enable/Disable SIP Registration. |
| Unregister on Reboot* | • Select **Yes** to automatically unregister the speaker when it is rebooted.<br>• Select **No** to keep the speaker registered when it is rebooted. |
| Register Expiration* | Enter the SIP Registration lease time in minutes (default 60 minutes). |
| Save Settings | Click this button to save your configuration settings. Changing a parameter that has an asterisk next to it will cause a system reboot when saved. |
| Speaker Setup | Link to the **Speaker Setup** page. |
| MGROUPS Setup | Link to the **MGROUPS Setup** page. |
| Network Setup | Link to the **Network Setup** page. |
| Upgrade Firmware | Link to the **Upgrade Firmware** page. |
| Home Page | Link to the **Home** page. |

3. After changing the parameters, click **Save Settings**.

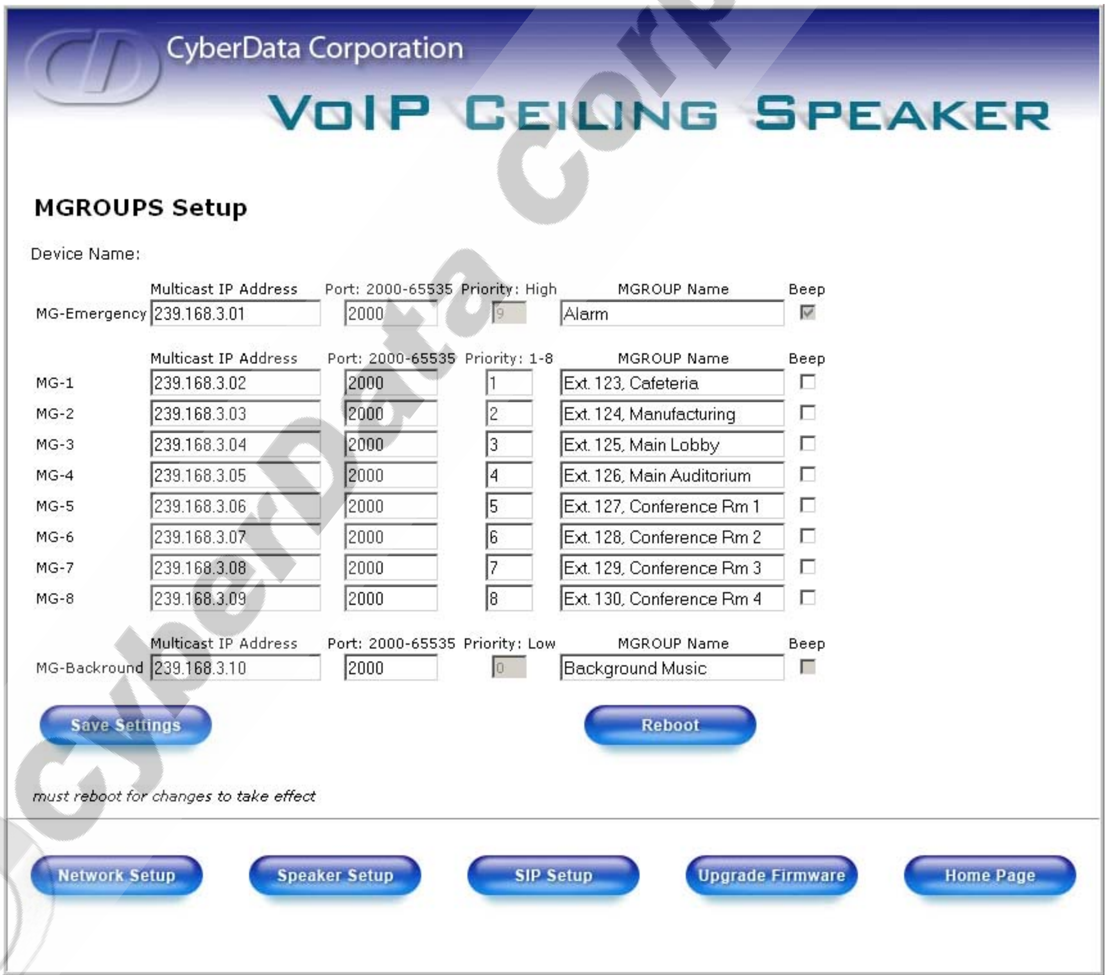
# 2.4 Set up the MGROUPS

MGROUPS uses multicasting to create Public Address Paging Zones. Multicasting is based on the concept of a group. Multicast addresses specify an arbitrary group of IP hosts that have joined the group and want to receive traffic sent to the group. Group members send IGMP messages to their local multicast routers, allowing the group traffic traversal from the source.

MGROUPS Setup provides the ability to join up to 10 Paging Zones. A Paging Zone can consist of one, or many, CyberData MGROUPS-enabled speakers. There is no limit to how many speakers can be in a given Paging Zone. Each MGROUP is defined by a multicast address and port number. Each MGROUP is also assigned a priority, allowing simultaneously arriving pages to be serviced based on importance. MGROUPS are compatible with IGMP through version 3.

1. Click on the **MGROUPS Setup** button to open the **MGROUPS Setup** page. See Figure 2-10.

**Figure 2-10. MGROUPS Setup**



2. On the **MGROUPS Setup** page, enter values for the parameters indicated in Table 2-8.

**Table 2-8. MGROUPS Setup Parameters**

| Web Page Item | Description |
|---|---|
| Device Name | Displays the device name. |
| MG-Emergency | Use MG-Emergency for the MGROUP with the highest priority. |
| MG-(1-8) | Use MG-(1-8) to assign MGROUPS 1 through 8. |
| MG-Background | Use MG-Background for the MGROUP with the lowest priority (background audio for example). |
| Multicast IP Address | Enter the multicast IP Address for this MGROUP. |
| Port 2000-65535 | Enter the port number for this MGROUP. |
| Priority | Assign the priority for this MGROUP (the higher the number, the higher the priority). |
| MGROUP Name | Assign a descriptive name for this MGROUP. |
| Beep | Check this box if you want a beep to precede a page. |
| Save Settings | Click this button to save your configuration settings. |
| Reboot | Click this button to reboot the system. |
| Network Setup | Link to the **Network Setup** page. |
| Speaker Setup | Link to the **Speaker Setup** page. |
| SIP Setup | Link to the **SIP Setup** page. |
| Upgrade Firmware | Link to the **Upgrade Firmware** page. |
| Home Page | Link to the **Home** page. |

3. After changing the parameters, click **Save Settings**.

**Note** For information on how to set up MGROUPS in Cisco Call Manager Express, see Appendix D, "Setting Up MGROUPS in Cisco Call Manager Express".

# 2.5 Upgrade the Firmware and Reboot the Speaker

To upload the speaker firmware from your PC:

1. Set up a TFTP server.

   If you do not already have a TFTP server running on your network, see Appendix B, "Setting up a TFTP Server".

2. Retrieve the latest speaker firmware from the CyberData website:
   http://www.cyberdata.net/support/voip/ceilingspeaker.html

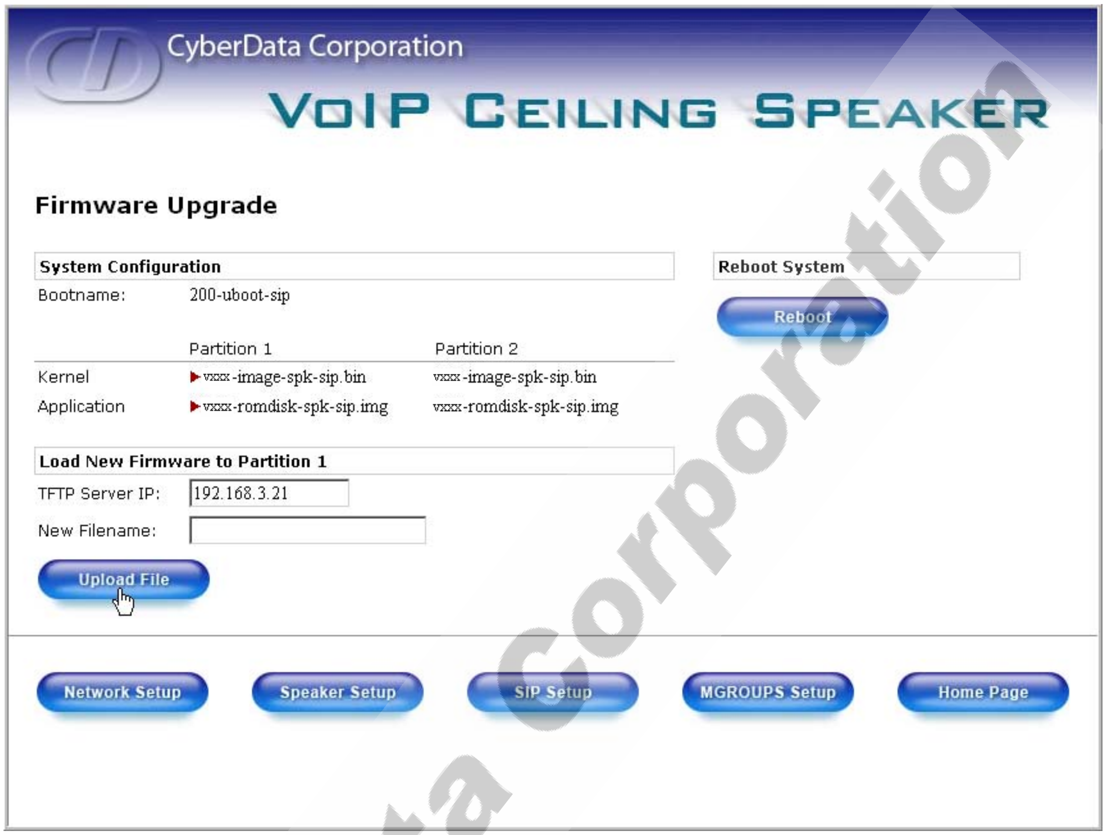
3. Unzip the speaker version file. This file may contain the following:
   - Kernel firmware file: xxx-image-xxx-xxx.bin
   - Application firmware file: xxx-romdisk-xxx-xxx.img
   - Release notes

4. Copy the firmware files to be upgraded to the appropriate TFTP server directory:
   - c:\tftp-root\for Windows
   - /tftpboot/for Linux

5. Log in to the speaker home page as instructed in Section 2.3.1, "Log in to the Configuration Home Page".

6. Click the **Upgrade Firmware** button to open the **Firmware Upgrade** page. See Figure 2-11.

**Figure 2-11. Firmware Upgrade Page**




7. Enter the IP address of your TFTP server into the **TFTP Server IP** parameter field.
8. Enter the firmware filename of the file to be uploaded into the **New Filename** parameter field.

   For example, kernel filename "201-image-spk-sip.bin".
9. Click **Upload File**.

**Note** This starts the upload process. Once the speaker has uploaded the file, the **Uploading Firmware** countdown page appears, indicating that the firmware is being written to flash. The speaker will automatically reboot when the upload is complete. When the countdown finishes, the **Firmware Upgrade** page will refresh. The uploaded firmware filename should be displayed in the system configuration (indicating successful upload and reboot).

10. Repeat steps 8 and 9 if you are uploading the **Kernel** and **Application** files.

    For example, **Application** filename "201-romdisk-spk-sip.img".

    Table 2-9 shows the web page items on the **Firmware Upgrade** page.

**Table 2-9. Firmware Upgrade Parameters**

| Web Page Item | Description |
|---|---|
| System Configuration | Shows the current configuration. |
| Bootname | Shows the current boot loader filename. |
| Kernel | Shows the current kernel filename for partition 1 and 2. |

**Table 2-9. Firmware Upgrade Parameters**

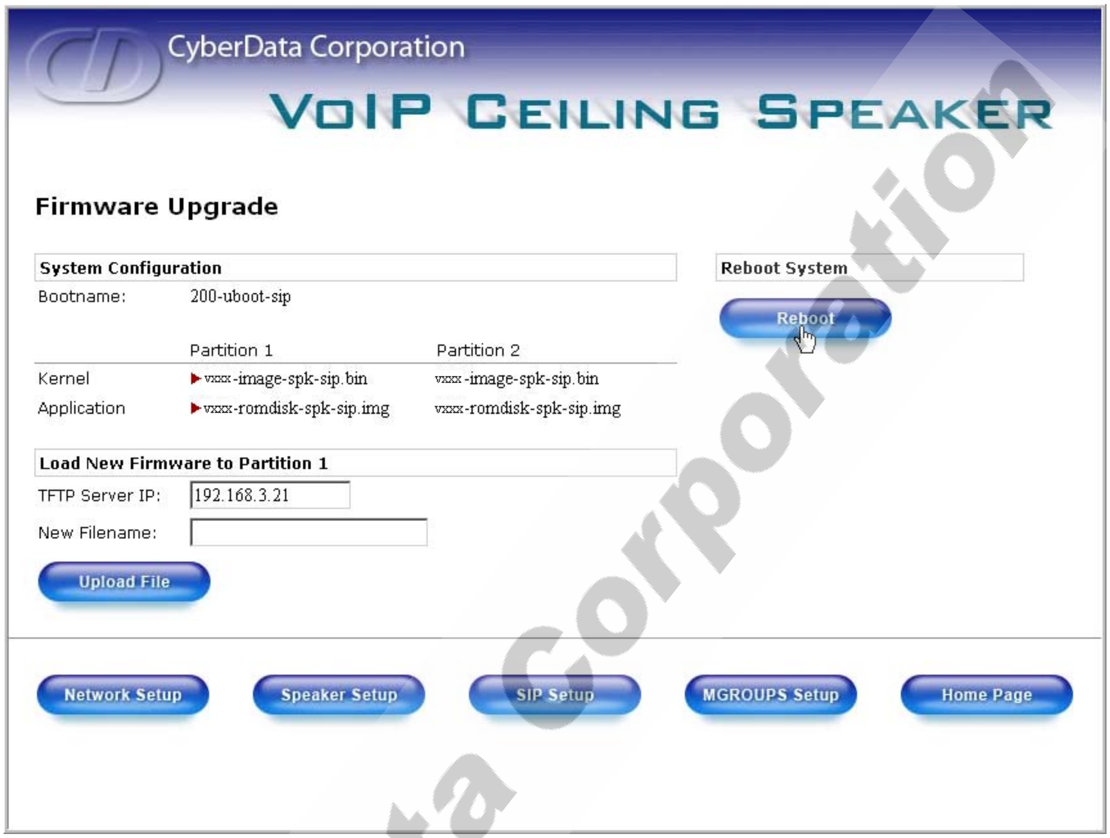
| Web Page Item | Description |
|---|---|
| Application | Shows the current application filename for partition 1 and 2. |
| TFTP Server IP address | Enter the TFTP Server IP address. |
| New Filename | Use this field to enter the new file name for the kernel or application firmware file that you are uploading. |
| Upload File | Click on this button to automatically upload the selected firmware and reboot the system. |
| Speaker Setup | Link to the **Speaker Setup** page. |
| Network Setup | Link to the **Network Setup** page. |
| SIP Setup | Link to go to the **SIP Setup** page. |
| MGROUPS Setup | Link to the **MGROUPS Setup** page. |
| Home Page | Link to the **Home** page. |
| Reboot | Click on this button to reboot the system. |

## 2.5.1 Reboot the Speaker

To reboot a speaker, log in to the web page as instructed in Section 2.3.1, "Log in to the Configuration Home Page".

1. Click **Upgrade Firmware** to open the **Firmware Upgrade** page (Figure 2-12).

**Figure 2-12. Reboot System Section**




2. Click **Reboot**. A normal restart will occur as per Section 2.2.2.1, "Status LED".

## 2.6 Restore the Factory Default Settings

When troubleshooting configuration problems, it is sometimes convenient to restore the device to a known state.

Each speaker is delivered with factory set default values for the parameters indicated in Table 2-10. Use the **RTFM** switch on the speaker face to restore these parameters to the factory default settings.

**Note** When you use the RTFM switch, the factory default settings are restored for *only* the parameters indicated in Table 2-10. The other parameters in the current speaker configuration will remain unchanged.

**Table 2-10. Factory Default Settings**

| Parameter | Factory Default Setting |
|---|---|
| IP Addressing | static |
| IP Address | 192.168.3.10 |
| Web Access Username | admin |
| Web Access Password | admin |
| Subnet Mask | 255.255.255.0 |

**Table 2-10. Factory Default Settings**

| Parameter | Factory Default Setting |
|---|---|
| Default Gateway | 192.168.3.1 |

To restore these parameters to the factory default settings:

1. Press and hold the RTFM switch for 20 seconds.
2. The speaker will beep after one second. Continue to hold the switch until the speaker beeps again after 20 seconds.
3. Release the switch. The following occurs:
    - A voice message announces that the factory default settings are being restored.
    - Once the settings are restored, a voice message announces the restored default IP address:

      `192.168.3.10`

    - A voice message announces that the speaker is rebooting.
    - The speaker reboots.

# Appendix A: Mounting the Speaker

## A.1 Mount the Speaker

Before you mount the speaker, make sure that you have received all the parts for each speaker. Refer to Table A-1 and Table A-2.

**Table A-1. Drop Ceiling Mounting Components (Part of the Accessory Kit)**

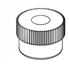
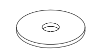
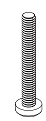
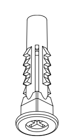
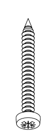
| Quantity | Part Name | Illustration |
|---|---|---|
| 3 | #8 Nylon Thumb Nuts |  |
| 3 | #8 Fender Washers |  |
| 3 | 8-32 x 1 1/4" Mounting Screws |  |

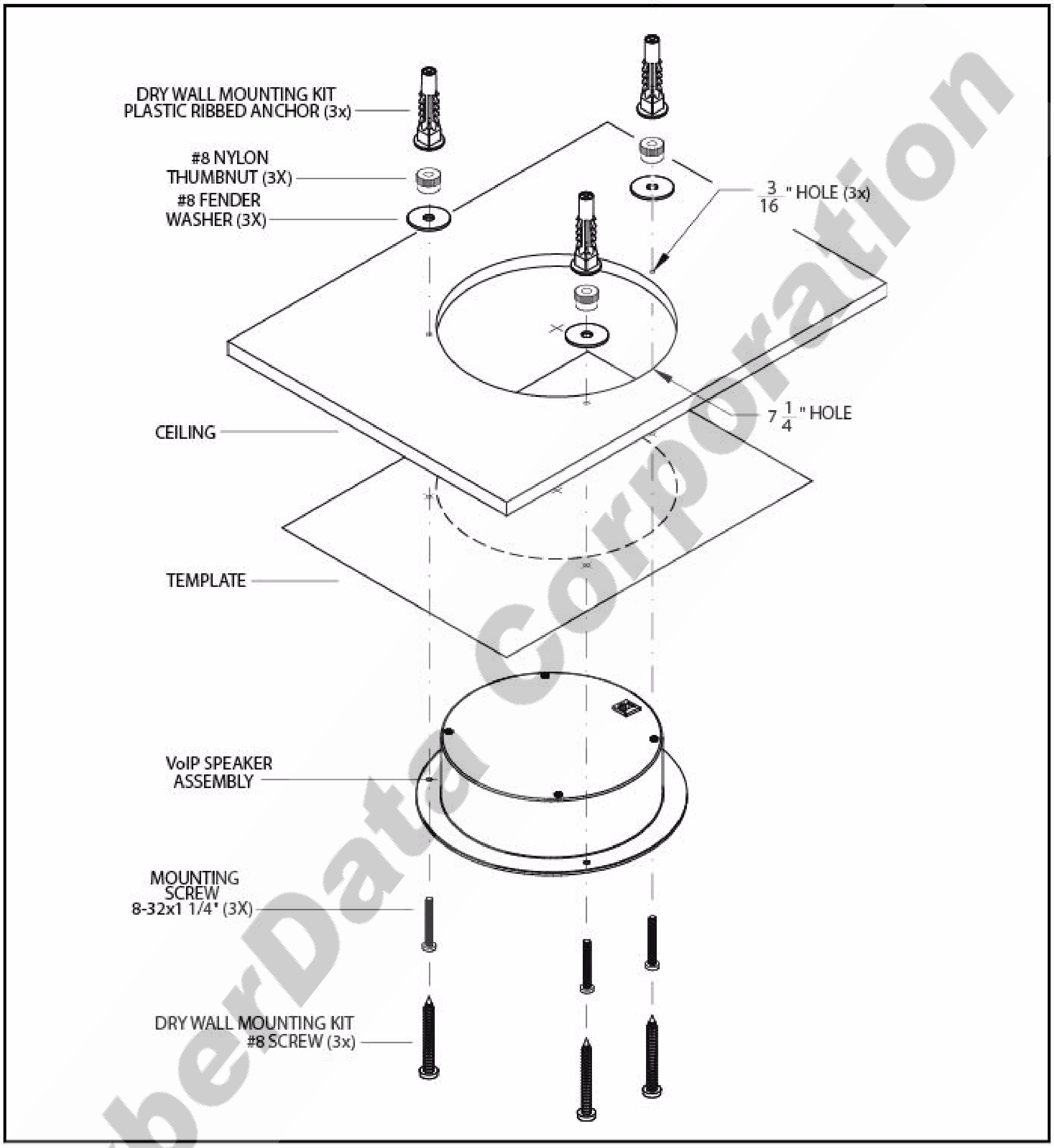
**Table A-2. Drywall Mounting Components (Part of the Accessory Kit)**

| Quantity | Part Name | Illustration |
|---|---|---|
| 3 | Plastic Ribbed Anchors |  |
| 3 | #6 Sheet Metal Screws |  |

To mount the speaker:

1. Use the **TEMPLATE** to cut the speaker hole and prepare holes for the screws (Figure A-1). This template is located on the back page of the *Installation Quick Reference Guide* that is delivered with each speaker.

**Figure A-1. VoIP Speaker Assembly**




2. Plug the Ethernet cable into the Speaker Assembly. Section 2.2.2, "Confirm that the Speaker is Operational and Linked to the Network" explains how the **Link** and **Status** LEDs work.

3. At this point:
   - For *drop ceiling mounting*, position the **VoIP SPEAKER ASSEMBLY** in the ceiling so that its screw holes align with those you prepared.
   - For *drywall mounting*, place the three **PLASTIC RIBBED ANCHORS** in the holes you prepared, and position the **VoIP SPEAKER ASSEMBLY** over them, aligning the screw holes in the assembly with the anchors.

4. To fasten the speaker:
   - For *drop ceiling mounting*, use the three **8-32 x 1 1/4" MOUNTING SCREWS**, **#8 NYLON THUMB NUTS**, and **#8 FENDER WASHERS** to secure the speaker.

**Note** For weak ceiling tile, CyberData offers a reinforcing mount (CyberData part number 010991A).

   - For *drywall mounting*, use the three **#8 SHEET METAL SCREWS** to secure the speaker.

# Appendix B: Setting up a TFTP Server

## B.1 Set up a TFTP Server

Upgrading the VoIP Ceiling Speaker firmware requires a TFTP server on which you access the Web interface where you can upload the firmware files.

### B.1.1 In a LINUX Environment

To set up a TFTP server on LINUX:

1. Create a directory dedicated to the TFTP server, and move the files to be uploaded to that directory.
2. Run the following command where `/tftpboot/` is the path to the directory you created in Step 1: the directory that contains the files to be uploaded. For example:

   ```
   in.tftpd -l -s /tftpboot/your_directory_name
   ```

### B.1.2 In a Windows Environment

You can find several options online for setting up a Windows TFTP server. This example explains how to use the Solarwinds freeware TFTP server, which you can download at:

`http://www.tucows.com/preview/326445`

To set up a TFTP server on Windows:

1. Install and start the software.
2. Select **File/Configure/Security** tab/**Transmit Only**.
3. Make a note of the default directory name, and then move the firmware files to be uploaded to that directory.

### B.1.3 In a Solarwinds Server Environment

You can find several options online for setting up a Solarwinds server. This example explains how to use the Solarwinds freeware TFTP server, which you can download at:

`http://www.CyberData.net/support/voip`

# Appendix C: Troubleshooting/Technical Support

## C.1 Frequently Asked Questions (FAQ)

Go to the following URL to see CyberData's list of frequently asked questions:

http://www.CyberData.net/support/voip

## C.2 Documentation

The documentation for this product is released in an English language version only. You can download PDF copies of CyberData product documentation at:

**www.CyberData.net—>Support—>Drivers, Utilities & Manuals—>VoIP Products**

## C.3 Contact Information

Contact

CyberData Corporation
2555 Garden Road
Monterey, CA 93940
USA
www.CyberData.net
Phone: 800-CYBERDATA (800-292-3732)
Fax: 831-373-4193

Sales

Sales 831-373-2601 Extension 334

Technical Support

Phone: 831-373-2601 Extension 333
Email: support@CyberData.net

Returned Materials Authorization

To return the product, contact the CyberData Returned Materials Authorization (RMA) department at:

Phone: 831-373-2601, Extension 136
Email: RMA@CyberData.net

When returning a product to CyberData, an approved CyberData RMA number must be printed on the outside of the original shipping package. No product will be accepted for return without an approved RMA number. Send the product, in its original package, to the following address:

CyberData Corporation
2555 Garden Road
Monterey, CA 93940
Attention: RMA "your RMA number"

# C.4 Warranty

CyberData warrants its product against defects in material or workmanship for a period of two years from the date of purchase. Should the product fail within the warranty period, CyberData will repair or replace the product free of charge. This warranty includes all parts and labor.

If the product is out-of-warranty and fails, a flat rate repair charge of one half the product purchase price will be assessed. Repair costs for products that are in warranty, but damaged by improper modifications or abuse, will be charged at the out-of-warranty rate. Products returned to CyberData, both in and out-of-warranty, are shipped to CyberData at the expense of the customer. Charges for shipping repaired products back to the customer will be paid by CyberData.

# Index

## Symbols



## Numerics



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# M



# N



# O



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# S

# T



# U



# V



# W